

HIGH THROUGHPUT HOLE FORMING SYSTEM WITH
MULTIPLE SPINDLES PER STATION

ABSTRACT OF THE DISCLOSURE

5 A high throughput drilling system for printed circuit
board hole formation. Two spindles are disposed at each
spindle station, doubling the number of holes produced in
a given time period. Each spindle is connected to an
overhead linear drive by a mini slide. A first set of the
spindles, one for each spindle station, is driven by a
first X axis linear drive. A second set is driven by a
10 second X axis linear drive. The work piece table is
elongated to support work pieces for all stations, and is
supported by a set of bearing guides, with outrigger
bearings coupled to the table by flexure mounts that
relieve stress due to differential temperature expansion
15 rates between the work piece table and the base table.
High speed spindles are employed to obtain higher produc-
tivity, with larger holes routed by router tools, eliminat-
ing the need for stocking large drill sizes on the system
tool changer.